Finite Mathematics – *MATH 2053-7 · MW 9:00 – 10:15 · Paneitz SC 335*

NorthWest Arkansas Community College – Spring 2026

– about me and this course –

Instructor: *Keith Foster · Professor of Mathematics · MS Mathematics, U of A*
Office: WCC 104 and SC 327 · phone: 479.619.4380 · email: gkfoster@nwacc.edu · website: http://gkfoster.com

Office Hours and Email: Office Hours are posted on my website at *http://gkfoster.com*, which will include any updates, which will be posted there. I will also send out an email stating there has been a change. If for any reason I must reschedule an office hour, there will be an announcement under the office hours on that webpage. Check before coming to campus for any announcements. My main office is SC 327 but I also teach at the Washington County campus, where I can be found in WCC 104.

E-mail is the best way to reach me outside office hours since I may not be in the office. I will reply to your email within 24 hours. When you email me, be sure to include the course name in the subject (i.e, subject: "FM") so I can best answer your email.

Course Objectives:

1. To develop proficiency in finite mathematics, a student should be able to:
   a. set up and solve linear programming problems graphically
   b. set up and solve standard and nonstandard linear programming problems using the Simplex Method
   c. calculate future values, present values, interest rates, effective rates, interest amounts, numbers of years, and numbers of compounding periods using simple and compound interest formulas
   d. calculate interest rates, interest amounts, principal amounts, payments, present values, and future values of ordinary annuities, and sinking funds
   e. find the payment amount for an amortized loan, the portion of a loan payment that is interest & the portion that is principal; the remaining balance, the sum of all payments, & the total amount of interest paid
   f. perform set operations; draw, interpret, and apply Venn diagrams
   g. use basic counting techniques including the multiplication principle, permutations, and combinations to count and to find probabilities
   h. compute conditional probabilities, probabilities of independent events, and binomial probabilities; calculate odds and expected values; and apply Bayes' Theorem
   i. organize data; create frequency & probability distributions and histograms; and compute measures of central tendency and variation
   j. find the percentage of area under a normal curve; *z*-scores; & probabilities using the standard normal curve
2. To develop problem solving skills

Course Description: A survey and applications course in mathematics designed for business, life science, and social science students. Topics include, but are not limited to, linear programming, financial mathematics, sets, probability, counting principles, measures of central tendency, measures of variation, and the normal distribution.

Prerequisites: College Algebra (MATH 1203) with a C or better, or appropriate placement scores. A good understanding of the concepts of College Algebra is expected.

– details regarding grading –

Grading for Course: The numerical grade comes from the following sources:

- *Unit Exams*: There will be four unit exams each worth 100 points (total: 400 points)
- *Quizzes*: Periodical quizzes will be graded and scaled to 100 points.
- Homework: All homework scores (except the Review sections) will count towards your Homework grade and be scaled out of 50 points.
- *Final Exam:* The *final exam* is worth 200 points and will be comprehensive.

Percentage score will be this numerical grade out of 750 points. A letter grade will be assigned based on the standard percentage scale:

A 90-100	*C 70-79.9*	*F below 60*
B 80-89.9	*D 60-69.9*	*FP failure due to non-attendance*

Homework/Quizzes Policy: You are expected to work all homework problems assigned on *myLab* Math (MLM).

Since this class is a three-credit class, this may require you to work up to six hours each week on homework and general overview of topics covered (spread this time out throughout the week). This is considered the norm for a college level course. It is recommended that you write up your homework in a notebook for reference later (even though the HW is on *myMathLab*), as you prepare for the exams and the Final. Quizzes will be assigned and will be given using *my*MathLab. There might be quizzes given during class time.

Exam Policy: All exams will be during scheduled class time. Notes will *not* be allowed on exams. Only approved calculators are permitted on the Exams. Also, calculators on cell phone or other devices are not permitted. The use of cell phones during testing time is prohibited. Once the exam has started, no student may leave for *any* reason, unless the student turns in the exam for grading. Show all work on sketch paper for each problem and turn in after the exam is turned in. This will allow me to give partial credit on each exam.

Calculator Use: Students can only use the TI 30XIIS calculator for this course. All others, including graphing calculator, are not permitted. Please be aware that supporting work for any of the processes will be required to earn any credit on any exam. Answers without correct supporting work will not earn any credit. Remember, the use of a calculator should enhance the mathematics, not replace it. The process of obtaining a solution is many times more important for our purposes than the solution itself. I will grade your work as well as your solutions.

– other policies and statements –

Makeup Policy: There will be no make ups on exams, quizzes or homework assignments. I will replace your lowest exam score (or missed exam) with your final exam percent score. Also, some quizzes might be dropped before the semester grade is calculated.

Participation Policy: Participation is expected, and lack of participation will invariably prove detrimental to your grade and your learning experience. Regardless of the reason for missing class, you will be responsible for any missed assignments, material and announcements. Do NOT wait until the last minute to complete assignments.

Non-Participation/Census Date Policy: Students who do not meaningfully participate in the course by the state-mandated census date may be assigned a grade of *NP (Non-Participation)* and withdrawn from the course. Students withdrawn for non-participation are *not eligible for reinstatement* and will receive an 80% refund in accordance with institutional policy.

To be considered *participating* and avoid withdrawal, students must *attempt at least one graded activity* before the date NP grades open. An attempt is defined as submitting work that earns a *score greater than zero*. Graded activities include any assignment (HW, quiz, or exam) with a posted deadline (official or unofficial).

Red-Letter Days: All special dates related to this course can be found on the course outline and/or on myLab Math (exams dates, due dates on HWs or any MLM Quizzes, etc.). Dates related to NWACC policies (drop dates including Administrative, final week dates, etc.) can be found on the NWACC Calendar page. It is the responsibility of each student to know where to find these dates. NWACC Calendar link: https://www.nwacc.edu/enrollment/records/importantacademicdates.aspx.

Academic Dishonesty Policy: For equality purposes, your instructor reserves the right to clear your calculator of unapproved formulas and programs before each exam. No graphing calculators or calculators with a CAS (Computer Algebra System) such as TI-89, TI-92, TI-Voyage or comparable utility is allowed in this class. The attempted use of a prohibited calculator or program is academic dishonesty and will result in a score of 0 with no possibility of the score being dropped or replaced. This also applies to all other forms of academic dishonesty including, but not limited to, using formula sheets not provided by instructor or any notes, leaving the room and returning during an exam, copying from someone else's paper, or allowing someone to copy your paper. Further action will be taken according to the policy on Academic Honesty in the current College Catalog.

– more general policies –

Methods of Instruction: Instruction will take place through lectures, readings and assigned problems.

Inclement Weather Policy: Decisions on college status during inclement weather are made by the President or the President's designee. Such decisions will be posted on the college web site, at http://www.nwacc.edu. The decision might be to move the class to Remote Streaming (details will be emailed at that time).

Artificial Intelligence Policy: Artificial intelligence (AI) is a rapidly developing field that has many applications and implications for mathematics and education. AI tools can generate text, images, code, and other forms of content based on user input. Some examples of AI tools are OpenAI, Google Workspace, and Microsoft Bing (Copilot).

- The use of AI tools in this course is not prohibited in assisting you on HW Problems, to gain a better understanding of how the problem should be approached. You should use AI tools only as a study aid, not as a substitute for your own work or understanding. AI tools should never be used on quizzes, since you are testing your understanding in preparation for exams.

If you have any questions or concerns about the use of AI tools in this course, please contact me. I reserve the right to modify this policy at any time, and to take appropriate actions in case of any violations. By enrolling in this course, you agree to abide by this policy and the academic integrity policy and the student code of conduct.

Available Tutoring: Tutoring at the Math Center is offered. There is a link to the Math Center on my website with information on when the center is open. There are also many online sources (youTube, etc). Also, please, contact me during my office hours to get help or email me anytime.

Canvas Limitations: Just a reminder, we will NOT be using Canvas. No assignments will be posted to Canvas for this course. All course information will be emailed to your NWACC email account. The most up-to-date grades will in myLab Math (MLM). Grades will be moved to Canvas, but MLM will has the official grades.

Class Continuation Plan: NWACC reserves the right to enact a class continuation plan in the event of class cancellations due to weather or other emergency events. The instructor will maintain continuity using myLab Math, Canvas or other alternate means as determined by the instructor. You will be contacted via your established communications channels with instructions. Students will be expected to continue with assignments. Consideration may be given for exceptional circumstances.

Other Resources: Free tutoring is available at the Math Center (BH 1217). Other online resources, such as YouTube videos and many websites (use Google to find) can be useful. Also, don't forget to stop by during office hours.

Course Issues: Please contact me first with any questions or concerns with the class. If you have concerns about the class that you do not wish to discuss further with me, please contact the math department chair: Meredith Davis at medavis1@nwacc.edu.

NWACC General Policies Link: For additional college wide policies, go to the following website: https://nwacc.instructure.com/courses/854631/pages/syllabus-policies. You're also responsible for these policies.

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eText: *Interactive Finite Mathematics,* Ritchey, Rickard & Merkin, Pearson, 11th Ed.

Course Schedule: Below is a week-by-week breakdown of course coverage. Schedule is subject to change and email notice will be given.

Week	Dates	Coverage
1	January 12 & 14	*Course Intro* 3.1 Graphing Linear Inequalities 3.2 Solving Linear Programming Problems Graphically
2	January 19 & 21	*King Day* 3.3 Applications of Linear Programming
3	January 26 & 28	4.1 Slack Variables and the Pivot 4.2 Maximization Problems
4	February 2 & 4	4.4 Nonstandard Problems *Exam #1 (Chapters 3 & 4)*
5	February 9 & 11	5.1 Simple and Compound Interest 5.2 Future Value of an Annuity
6	February 16 & 18	5.3 Present Value of an Annuity; Amortization 7.1 Sets 7.2 Applications of Venn Diagrams
7	February 23 & 25	7.3 Introduction to Probability 7.4 Basic Concepts of Probability
8	March 2 & 4	*Exam #2 (Chapter 5, Sections 7.1 – 7.4)* 7.5 Conditional Probability; Independent Events
9	March 9 & 11	7.6 Bayes' Formula
10	March 16 & 18	8.1 The Multiplication Principle; Permutations 8.2 Combinations
	March 22 – 27	*Spring Break*
11	Mar 30 & Apr 1	8.2 Combinations 8.3 Probability Applications of Counting Principles
12	April 6 & 8	*Exam #3 (Sections 7.5, 7.6, 8.1, 8.2 & 8.3)* 8.4 Binomial Probability
13	April 13 & 15	8.5 Probability Distributions; Expected Value 9.1 Frequency Distributions; Measures of Central Tendency 9.2 Measures of Variation
14	April 20 & 22	9.3 The Normal Distribution
15	April 27 & 29	*Exam #4 (Section 8.4 & Chapter 9)* *Review for Final Exam*
	May 4 - 8 **Finals Week**	**Final Exam will be given on Wednesday, May 6, 9:00 – 11:00**

Updated: January 9, 2026